

AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A photolithographic reduction projection catadioptric objective with a beam path, comprising: a first optical group including an even number of at least six mirrors; and a second at least substantially dioptric optical group more imageward than said first optical group including a number of lenses, and wherein said first optical group provides compensative axial colour correction for said second optical group, wherein a virtual image is formed by the first optical group physically on the object side of a sixth mirror and optically further along the optical beam path after said sixth mirror.
2. (Original) The objective of Claim 1, wherein said image is formed with a numerical aperture of at least substantially 0.65.
3. (Canceled)
4. (Previously Presented) The objective of Claim 1, wherein said at least four mirrors of said first optical group include a convex mirror arranged most imageward in the beam path of the objective, and wherein said second optical group receives a beam from said convex mirror.
5. (Previously Presented) The objective of Claim 1, wherein optical surfaces of each minor of said objective are at least sections of surfaces of revolution each having a common axis of symmetry.

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29. (Original) The objective of Claim 11, wherein said image is formed with a numerical aperture of at least substantially 0.70.
30. (Original) The objective of Claims 11, wherein said image is formed with a numerical aperture of at least substantially 0.75.
31. (New) A photolithographic reduction projection catadioptric objective, comprising: a first optical group including an even number of at least six mirrors; and a second at least substantially dioptric optical group more imageward than said first optical group including a number of lenses for providing image reduction, wherein a third mirror and a fourth mirror are disposed optically after a first mirror and a second mirror but are physically disposed between the first mirror and the second mirror, wherein all of the mirrors are arranged in a coaxial manner.
32. (New) A photolithographic reduction projection catadioptric objective, comprising: a first optical group including an even number of at least six mirrors; and a second at least substantially dioptric optical group more imageward than said first optical group including a number of lenses for providing image reduction, wherein a third mirror and a fourth mirror are disposed optically after a first mirror and a second mirror but are physically disposed between the first mirror and the second mirror, wherein at least one lens is arranged in the optical path between the first mirror and a last mirror.